

*The preservice teacher  
knows the discipline ...*

*Agriculture Education*

*(Grades 5-12)*

## Introduction

The following competencies are intended to clarify Standard 1.1, “. . . knows the discipline,” in the N-STEP process. The competencies are firmly rooted in the profession’s best knowledge and practices. The competencies are broadly stated with the intent that teacher preparation institutions will determine the breadth and depth of material for meeting the competencies. The statements represent the minimum expected of beginning teachers in order to be licensed to teach.

The Agriculture Education competencies have been developed to correlate with the following documents:

Missouri’s Show-Me Standards abbreviated as:

SS 1,4 = Social Studies section, statements 1 and 4

MA 2 = Mathematics section, statement 2

G 4.7 = Goal 4, statement 7

Missouri’s minimum requirements for Agriculture Education certification, effective September 1, 1997 abbreviated as:

CR 2.a.4 = Certification Requirement 2 (Subject Matter) a (Technical Agriculture) 4 (Agricultural Economics)

*Beginning Teacher Discipline-Specific Competencies: Agriculture Education*

The beginning (preservice) agriculture teacher will demonstrate a knowledge of and/or competency in the following areas of study:

|  |  |
|--|--|
| <b>1. Agricultural Business Management</b><br>(G 1.6, 3.1-8, 4.1, 4.4; MA 1, 3, 4, 5; SS 4; CR 2.a.3-4, 2.b.3.a) | 1. Basic principles of agricultural economics;<br>2. Basic principles of agricultural marketing; and<br>3. Business structures in agriculture.   |
| <b>2. Animal Science</b><br>(G 1.3, 3.1-8, 4.1-7; SC 3, 4, 8; CR 2.a.1)  | 1. Genetic principles and reproduction;<br>2. Balancing livestock rations to meet nutritional requirements;<br>3. Monogastric and ruminant digestive systems;<br>4. Management practices that affect animal performance;<br>5. Economic importance of animal agriculture in Missouri, the United States, and the world; and<br>6. Effect of consumer concerns on production, processing, and marketing of animal products. |
| <b>3. Plants and Soils</b><br>(G 1.3, 3.1-8, 4.1-7; SC 3, 4, 8; CR 2.a.2, 2.a.6)                                 | 1. Factors that affect plant growth and development;<br>2. Soils and related management practices;<br>3. Economic importance of plants in Missouri, the United States, and the world;<br>4. Fertility and plant protection practices; and<br>5. Effect of consumer concerns on production, processing, and marketing of crop/plant products.   |
| <b>4. Natural Resources</b><br>(G 1.3, 3.1-8, 4.1-7; SC 5, 8; SS 5; CR 2.a.8)                                    | 1. Stewardship and management of natural resources.  |
| <b>5. Agriculture Mechanics</b><br>(G 3.1-8, 4.1, 4.5, 4.6, 4.7; CR 2.a.5)                                       | 1. Maintenance and proper use of agricultural tools and equipment; and<br>2. Basic project construction techniques and processes used in agriculture.  |
| <b>6. Careers</b><br>(G 2.6, 4.8; CR 2.b.3)  | 1. The importance of agriculture in the global economy;<br>2. Career opportunities in agriculture;<br>3. Matching student's characteristics with agricultural occupations;<br>4. Developing student plans for career entry and advancement in agriculture;   |

The beginning (preservice) agriculture teacher will demonstrate a knowledge of and/or competency in the following areas of study:

| <i>In addition to the preceding competencies, the following also apply to teachers who plan to be certificated in Vocational Agricultural Education (grades 9-12)</i> |   |
|---|---|
| <b>Careers<br/>(continued)</b>  | <ol style="list-style-type: none"> <li>5. Workplace readiness skills;</li> <li>6. Employability skills;</li> <li>7. Employment and entrepreneurship opportunities; and</li> <li>8. Career planning.</li> </ol>  |
| <b>7. Program Management<br/>(CR 2.b.2-3)</b>   | <ol style="list-style-type: none"> <li>1. Networking with community agricultural leaders and organizations;</li> <li>2. Business, industry, and community agency partnerships;</li> <li>3. Managing agricultural laboratory facilities safely and efficiently;</li> <li>4. Design, organize, and manage vocational programs;</li> <li>5. Vocational philosophy;</li> <li>6. Vocational advisory committees;</li> <li>7. Program evaluation and follow-up assessments;</li> <li>8. Collect, interpret, and utilize community needs assessment information;</li> <li>9. Legislation affecting vocational education;</li> <li>10. Regulatory and statutory requirements;</li> <li>11. Budget development and management; and</li> <li>12. Public relations.</li> </ol> |
| <b>8. Supervised Agricultural Experience (SAE)<br/>(CR 2.b.2-3)</b>   | <ol style="list-style-type: none"> <li>1. Philosophy and purpose of SAE programs;</li> <li>2. Assisting students in identifying opportunities, planning, and implementing SAE programs;</li> <li>3. Planning and conducting quality SAE visits; and</li> <li>4. Using the Missouri Agricultural Education Record system.</li> </ol>   |

The beginning (preservice) agriculture teacher will demonstrate a knowledge of and/or competency in the following areas of study:

|  |  |
|--|--|
| <b>9. Development and Implementation of Vocational Curriculum</b>  | <ol style="list-style-type: none"> <li>1. Write and evaluate vocational student performance objectives in the cognitive, psychomotor and affective domains;</li> <li>2. Design, implement, and supervise experiential learning opportunities;</li> <li>3. Integrated applications/contextual learning;</li> <li>4. Problems-based learning;</li> <li>5. Interdisciplinary team teaching;</li> <li>6. Adult learners; and</li> <li>7. Vocational instructional management systems.</li> </ol> |
| <b>10. Vocational Student Organizations</b><br><br>(FFA Organization, Postsecondary Agriculture Students, Young Farmers/Farmwives) | <ol style="list-style-type: none"> <li>1. Philosophy and goals;</li> <li>2. Leadership development;</li> <li>3. Program of activities;</li> <li>4. Advising and managing an agricultural student organization; and</li> <li>5. Parliamentary procedure.</li> </ol>   |

# Development Committee

1. Bob Birkenholz, University of Missouri-Columbia
2. Kenny Graham, Farmington R-VII School District
3. Dan Hill, Sweet Springs R-VI School District
4. Marvin Hoskey, Northwest Missouri State University
5. Chet Johnson, MFA Inc., Columbia
6. Carole Kleiboeker, Parent, Stotts City
7. Ron Scheiderer, Salisbury R-IV School District
8. Roger Wolf, Chillicothe R-II School District

# Development Committee

Agricultural Education Competency Profiles, Instructional Materials Laboratory, Columbia, Missouri, 1989-1995.

Certification Requirements, Agricultural Education, grades 9-12, Missouri State Board of Education, effective 1997.

Certification Requirements, Middle School Education, grades 5-9, Missouri State Board of Education, effective 1997.

Model Standards for Beginning Teacher Licensing and Development: A Resource for State Dialogue, Interstate New Teacher Assessment and Support Consortium-INTASC, Sponsored by the Council of Chief State School Officers.

National Teachers Examination, Educational Testing Service, Princeton, NJ. Specialty area test descriptions.

New Standards for Teacher Education Programs in Missouri-NSTEP for Institutions Seeking Continuing Approval of Teacher Education Programs (draft 2/96).

Next Steps: Moving Toward Performance Based Licensing in Teaching, Interstate New Teacher Assessment and Support Consortium-INTASC.

Redesign of licensure of Kansas educators, Kansas State Board of Education, February 1996.

“The Show-Me Standards,” Missouri Department of Elementary and Secondary Education.

Vocational Education Draft Standards for National Board Certification, National Board for Professional Teaching Standards, May 1996.